

KEYSTONE

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DWN C. Smith	11-02-82	INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS FOR H1C & H1S HAND VALVES WITH 3/8" & 5/8" ORIFICE		
CHK D. Boyett	11-12-82			
ENGR J. Spahr	11-22-82			
PROD M. Lemburg	11-12-82			
APPR		Size A	05.9040.102	Rev C
QA		PAGE 1 OF 8		

REVISIONS

SYM	PAGE	DESCRIPTION	DWN	CHK	RC	APPROVAL
A	1	ECR #3-00513 Add "H1C-4, H1S-4" to Title and Lable on Pg 1.				J.W. Fisher 7/14/83
	3	Added "H1c-4, H1S-4 to introduction and lable				
	5	Added to Para 4.2 k. . . washer (Item 12) on H1()-6 and -8 only	B. Raskin 1-10-83			
	6	Remove comma after . . . (Item 3) and insert the word "and" also add "on H1()-6 and -8 only" after . . . (Item 23) in Para. 4.2 N		D. Boylston 1-11-83		Don Wick 1-17-83
	7	Change Para 4.3 J to read: "Tighten bonnet to torque values shown below: H1()-4 . . .50-60 Ft/Lbs. H1()-6 & -8 . . . 130-140 Ft./Lbs.				
B	1	ECR #6-100-06 Title was "Installation, Operation and Maint. Instructions for H1C-4, H1S-4, H1C-6, H1C-8 H1S-6 and H1S-8 Hand Valves".	J. Whillis 4-25-86			J.W. Fisher 4-24-86
	3	Revised Para 1.0.				W. J. Fisher 4/24/86
	5	Para 4.2 - Letter k. - Moved bracket from the 12 to the end of "only".		D. Boylston 4-22-86		
	6	Para 4.2 - Letter n. - Moved bracket from the 12 to the end of "only".				
	7	Para 4.3 - Letter j. - Added -6Q, -8Q, -66Q, -88Q.				
	9	Added -6 and -8 only.				
C		ECR #93-068-Q4 Revise entire report	J. Whillis 4-5-93	R. Urquhart 4/29/93		J.A. Corliss 4/29/93 R.W. Fisher 5/10/93

**INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS H1C & H1S HAND VALVES W/
3/8" & 5/8" ORIFICE****1.0 INTRODUCTION**

Anderson, Greenwood and Co. 3/8" & 5/8" hand valves, are the larger valves in the H1 design family. These valves feature a free rotating plug that seals off against a replaceable seat insert and have packing below the threads. For maximum pressure/temperature ratings see applicable valve submittal drawings.

2.0 INSTALLATION

2.1 For all field welds of pipe or tube to valves, it is recommended that the valve seat be in the partially open position during welding.

2.2 Immediately prior to valve installation, check the piping to which the valve is to be connected for cleanliness and freedom from foreign materials.

2.3 THREADED VALVE INSTALLATION

Threaded pipe joints depend on a good intimate fit between the male and female pipe threads, therefore the use of a thread sealant is recommended and the pipe fitting connections must be made up tight.

2.4 WELD JOINT VALVE INSTALLATION

Welded joints, properly made, provide a structural and metallurgical continuity between the pipe and the valve body. All welding should be in accordance with any Code or jurisdictional regulation applicable to the piping system construction and with complete and approved welding procedures.

Heat input should be kept to a minimum by controlling the amperage and voltage to the lowest practical levels. A minimum travel speed of three (3) I.P.M. should be maintained and the interpass temperature should not exceed 200°F. The process employed should be GTAW with argon gas and a maximum diameter weld rod of 1/8".

3.0 OPERATION

Valves which have been reasonably matched to a typical valve service application and properly installed in its piping system can expect to have a long service life with a minimum of attention. However, these valves have moving and wearing parts and depend on long term preservation of highly finished surfaces on these parts for satisfactory valve performance.

3.1 The use of a "cheater" to operate the valve handle is not necessary and not recommended. This practice can cause valve damage.

3.2 All valves have rising stems with right hand thread. Rotate the handle counter-clockwise to open and clockwise to close.

3.3 Bonnets with rising stems are provided with a backseat. Backseats in rising stem bonnets should be considered basically as stops to prevent overtravel when opening valves. It is recommended not to leave the upper stem in the backseated position. Note MSS SP-92, "MSS Valve User Guide", paragraph 4.3.

4.0 HAND VALVE MAINTENANCE

The important performance parameters are pressure boundary integrity, actuating force required and internal leak tightness. Maintenance should logically address the importance of preserving the performance parameters.

Valves which remain in one position for long periods of time may be subject to some degree of operability as a result of loss of effective lubricants in threads, aging of packing surface corrosion of moving parts or accumulation of harmful - solids. In some applications it may be desirable to schedule periodic partial or full cycle exercising these valves.

4.1 Stem seal leakage usually results from seal wear, and can usually be corrected by replacement of stem seal.

4.2 STEM SEAL REPLACEMENT

If stem seal replacement is needed, safe practice requires depressurizing the valve before removal of the bonnet.

- a. Refer to Figure 1 for part identification.
- b. Remove bonnet lock pin (item 13) from the valve body by using heavy duty pliers or wire cutters.
- c. Unscrew bonnet assembly counter clockwise to remove it from valve body.
- d. Remove handle (item 7) by loosening handle bolt.
- e. Remove dust boot (item 6) from the bonnet (item 1).
- f. Remove stem (item 2) from bonnet by screwing it downward.
- g. Remove the two C-washers (item 11) from the stem.
- h. Slide plug (item 9) and thrust washer (item 8) down onto the stem.
- i. Remove retaining ring (item 10) from the end of the stem.
- j. Slide the plug and thrust washer off of the stem.
- k. Remove the retaining ring (item 5), washer (item 12 on H1()-6 and -8 only), two back-up rings (item 3) and O-ring (item 4) from the stem (these parts will come out of the bonnet with stem removal).
- l. Clean all bonnet assembly parts with acetone or Alcohol.
- m. Inspect parts for damage, particularly the stem threads and plug. Replace both stem and bonnet if threads do not engage smoothly.
- n. Install one of the back-up rings (item 3), O-ring (item 4), the other back-up ring (item 3) and washer (item 12 on H1()- and -8 only) onto the stem (item 2).
- o. Lubricate the stem threads with the appropriate lubricant specified on the assembly drawing and screw it up into the bonnet from the bottom of the bonnet.
- p. Install retaining ring (item 5) into bonnet (item 1) and push it down as far as it will go.

- q. Slide thrust washer (item 8) and plug (item 9) onto stem in that order.
- r. Install retaining ring (item 10) into groove on the end of the stem.
- s. Slide thrust washer (item 8) and plug (item 9) down until the plug contacts the retaining ring just installed.
- t. Install the two C-washers (item 11) onto the stem with the opening on the C-washer going in opposite direction from each other.
- u. Install dust boot (item 6) over stem and down onto the bonnet.
- v. Install handle (item 7) onto the stem and tighten the handle bolt to 12 inch/lbs., torque. Make sure that the handle bolt contacts the stem on the flat area provided for it.
- w. Apply a small amount of lubricant to the bonnet threads and screw it into the body. Make sure that the plug is fully retracted into the bonnet and torque the bonnet down to 130/140 ft./lbs., torque.
- x. Install bonnet lock pin (item 13) into one of the two holes that one of the flats on the bonnet hex best centers over.

4.3 SEAT REPLACEMENT

If seat replacement is needed, safe practice requires depressurizing the valve before removal of the bonnet.

- a. Refer to Figure 1 for part identification.
- b. Remove bonnet lock pin (item 13) from the valve body by using heavy duty pliers or wire cutters.
- c. Unscrew bonnet assembly counter clockwise to remove it from valve body.
- d. Remove seat (item 14) from seat cavity. The seat may be removed from the seat cavity with any smooth surfaced bar used as a pry bar inserted into one of the orifice holes in the seat.

- e. Clean seat cavity with acetone or alcohol.
- f. Inspect seat cavity for damage, such as scratches that go from one hole to the other or heavy corrosion in the area where the seat (item 14) goes. If seat cavity has become damaged the body must be replaced.
- g. Make sure that indexing pin (item 15) is still securely installed into the hole in the bottom of the seat cavity.
- h. Install new seat (item 14) making sure that the notch in the side of the seat is centered over the indexing pin (item 15).
- i. Apply a small amount of lubricant to the bonnet threads and screw it into body. Make sure the plug is fully retracted up into the bonnet.
- j. Tighten bonnet to torque values shown below.

H1()-4, -6Q, -8Q, -66Q, -88Q - - - 50/60 ft-lbs
H1()-6 & -8 - - - - - - - - - - - 130/140 ft-lbs

- k. Install bonnet lock pin (item 13) into one of the holes in the body that one of the bonnet hex best centers over.

5.0 POST ASSEMBLY INSPECTION

Turn the handle to open and close the valve. Check for binding, rubbing or any resistance to smooth operation.

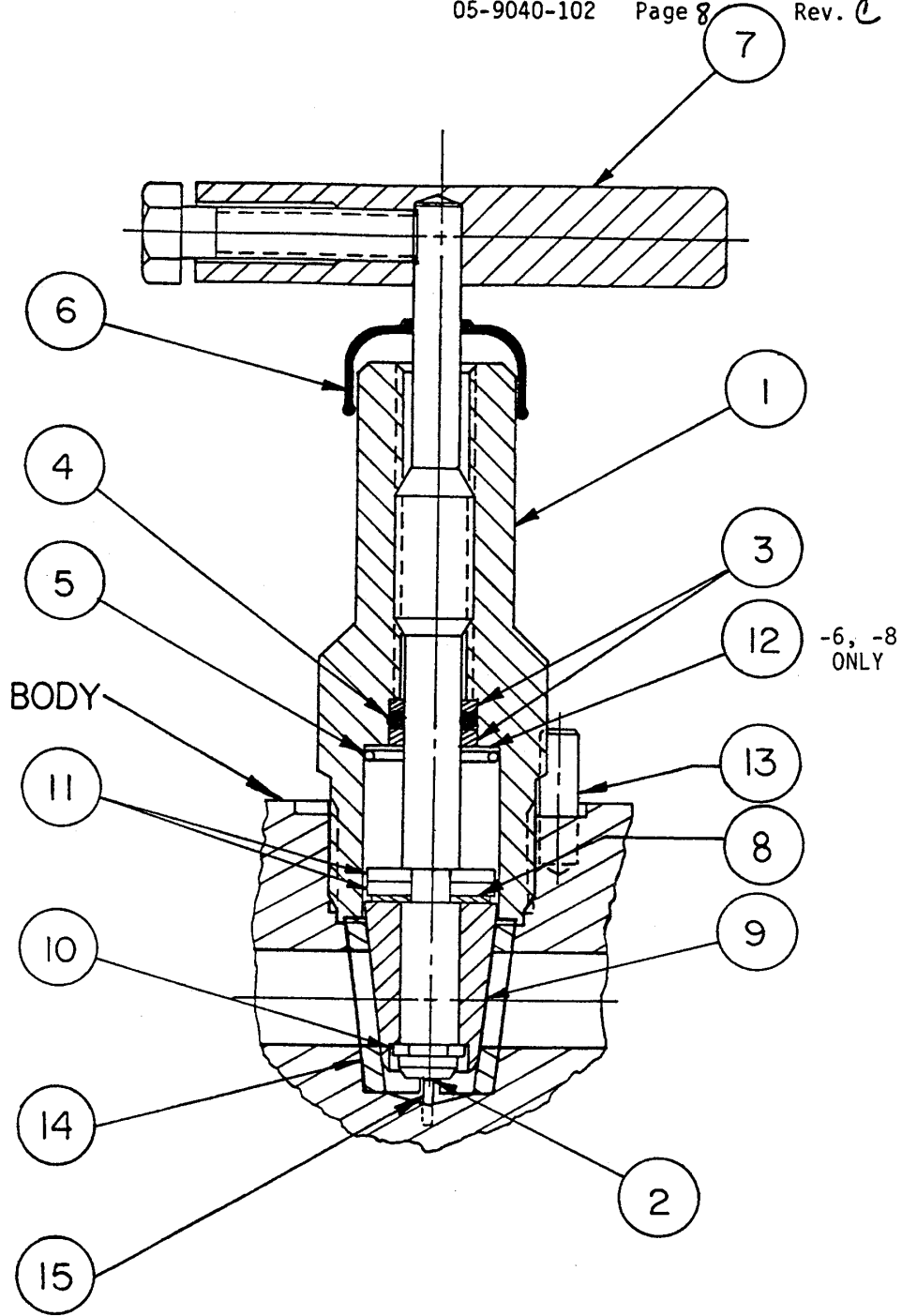


FIGURE I